

Applicants : Brent J. Bos, Kenneth Schofield, Mark L. Larson and Niall R. Lynam
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Remarks:

The amendments and remarks presented herein are believed to be fully responsive to the Office Action dated December 4, 2006. The period for response is extended to April 4, 2007 via the enclosed petition and fee for a one month extension of time.

Claims 103-128 and 130-147 are pending in the application. Claims 103, 130, 134 and 147 have been amended as set forth above. Claim 129 has been canceled herein without prejudice. The amendments are fully supported in the specification and drawings as originally filed. No new matter has been added.

ALLOWED CLAIMS

Claims 127 and 128 are allowed.

DOUBLE PATENTING REJECTION

Claims 103, 104, 108 and 116-120 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 17 of U.S. Patent No. 6,806,452. Without acquiescing in the rejection in any manner, Applicants enclose herewith a Terminal Disclaimer with respect to U.S. Patent No. 6,806,452. The basis for the double-patenting rejection is obviated. Accordingly, withdrawal of the double patenting rejection of claims 103, 104, 108 and 116-120 is respectfully requested.

Please charge Account No. 22-0190 for the \$110 terminal disclaimer fee due and for any additional fees which may be due.

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CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 103-105, 107-120, 125, 126, 129 and 135-146 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bechtel et al., U.S. Patent No. 5,451,822 ("Bechtel '822"), in view of Noack, U.S. Patent No. 4,355,271 ("Noack"), and in view of Vachss, U.S. Patent No. 5,313,072 ("Vachss"). Claim 106 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Bechtel '822, Noack and Vachss combination, in further view of Bendicks et al., U.S. Patent No. 5,498,866. Claims 121-124 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Bechtel '822, Noack and Vachss combination, in further view of Shiraishi, U.S. Patent No. 4,881,019. Claim 130 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Bechtel '822, Noack and Vachss combination, in further view of Kobayashi et al., U.S. Patent No. 5,426,294. Claim 131 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Bechtel '822, Noack and Vachss combination, in further view of Kiyomoto et al., U.S. Patent No. 5,844,682. Claim 132 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Bechtel '822, Noack and Vachss combination, in further view of Levers, U.S. Patent No. 5,276,389. Claim 133 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Bechtel '822, Noack and Vachss combination, in further view of Teder, U.S. Patent No. 5,568,027. Independent claim 147 was rejected under 35 U.S.C. §103(a) as being unpatentable over Bechtel '822, in view of Vachss, and in further view of Stam et al., U.S. Patent No. 5,837,994 ("Stam '994").

Applicants respectfully traverse the rejections under 35 U.S.C. §103(a) for the reasons set forth below.

Applicants have amended independent claim 103 to clarify that the imaging sensor comprises a two-dimensional pixelated array of light sensing photosensor elements formed on a semiconductor substrate. Applicants have amended independent claim 134 to clarify that the first imaging array comprises a two-dimensional pixelated array of light sensing photosensor

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elements formed on a semiconductor substrate and the second imaging array comprises a two-dimensional pixelated array of light sensing photosensor elements formed on a semiconductor substrate. Applicants have amended independent claim 147 to correct an antecedent basis issue with respect to the control of claim 147.

Applicants respectfully submit that the combination of Bechtel '822, Noack and Vachss does not disclose, teach, suggest or render obvious the interior rearview mirror system of the present invention, particularly as set forth in independent claims 103 and 134 and in the claims depending therefrom. Nor does the combination of Bechtel '822, Vachss and Stam '994 disclose, teach, suggest or render obvious the interior rearview mirror system of the present invention, particularly as set forth in independent claim 147.

Bechtel '822 discloses a control system that controls an electrochromic rearview mirror and that energizes and deenergizes the vehicle headlamps in response to the sensed ambient and glare light levels, which are sensed by photo-diode light sensors. The control system of Bechtel '822 thus provides automatic dimming of the mirrors and headlamp on-off control functions.

With respect to the rejection of independent claim 1, Applicants respectfully submit that there is no disclosure or suggestion in Bechtel '822 of, for example, an imaging sensor that generates outputs indicative of sensed images, nor is there any disclosure or suggestion in Bechtel '822 of, for example, a control that is responsive to outputs of an imaging sensor, and of a control that is operable to, for example, process the outputs of an imaging sensor with at least one of a filtering process, an edge detection function and a detection control function, and that is operable to, for example, control at least one of (a) a windshield wiper of the vehicle and (b) a defogging system of the vehicle responsive to the processing. Nor does Bechtel '822 disclose or suggest, for example, an imaging sensor that comprises a two-dimensional pixelated array of light sensing photosensor elements formed on a semiconductor substrate. With respect to the rejection of independent claim 134, Bechtel '822 does not disclose or suggest, for example, the use of two

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imaging arrays, with the control being responsive to processing of the output of one imaging array for controlling a windshield wiper of the vehicle, and the control being responsive to the output of the other imaging array to control a headlamp of the vehicle. For example, Bechtel '822 does not disclose or suggest the control being operable to process a first output of a first imaging sensor with at least one of a filtering process, an edge detection function and a detection control function, and with the control being operable to control a windshield wiper of the vehicle responsive to the processing of the first output from the first imaging array, and with the control further being operable to control a headlamp of the vehicle responsive to the second output from the second imaging array. Nor does Bechtel '822 disclose or suggest, for example, a control that is operable to adjust the rate of wipe of a windshield wiper of the vehicle responsive to images sensed by the first imaging array.

The Office Action cites Noack for support of some of the elements that are clearly missing from Bechtel '822. However, Noack merely discloses a control apparatus that controls a windscreen wiper apparatus of a vehicle in response to variations in infra-red radiation incident on a detector at the windscreen, and that turns on the vehicle headlights and taillights under conditions where the ambient light level exterior to the vehicle drops below a first predetermined level and turns them off when the ambient light level rises to a second predetermined light level. There is no disclosure or suggestion in Noack of, for example, an imaging sensor that generates outputs indicative of sensed images, nor is there any disclosure or suggestion in Noack of, for example, a control that is responsive to outputs of an imaging sensor, and of a control that is, for example, operable to process the outputs with at least one of a filtering process, an edge detection function and a detection control function, and that is, for example, operable to control at least one of (a) a windshield wiper of the vehicle and (b) a defogging system of the vehicle responsive to the processing. Nor does Noack disclose or suggest, for example, an imaging sensor that comprises a two-dimensional pixelated array of light sensing photosensor elements formed on a semiconductor substrate. Nor does Noack disclose or suggest two imaging arrays such as set

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forth in independent claim 134 and the claims depending therefrom. To the contrary, the detector of Noack is an infrared sensor that detects light emitted by an emitter device.

The Office Action further cites to Vachss for support of some of the elements that are clearly missing from Bechtel '822 and Noack. However, Vachss merely discloses an optical detector for windshield wiper control that controls the windshield wipers of a vehicle in response to a detector array that detects scattered light at a windshield and that determines the light intensity as a function of a distance of the detected light from an optical axis of the detector. There is no disclosure or suggestion in Vachss to control any other function of the vehicle. Nor is there any disclosure or suggestion in Vachss of, for example, an imaging sensor or imaging array that generates outputs indicative of sensed images, and/or of, for example, a control that responsive to outputs of an imaging sensor, and/or of a control that is operable to, for example, process the outputs with at least one of a filtering process, an edge detection function and a detection control function, and that is operable to control at least one of (a) a windshield wiper of the vehicle and (b) a defogging system of the vehicle responsive to the processing. Nor does Vachss disclose or suggest two imaging arrays and windshield wiper control such as set forth in independent claim 134. To the contrary, the detector array of Vachss detects light that is from a light source and scattered at the windshield, and determines the light intensity as a function of the distance of the light from the optical axis.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or references when combined must teach or suggest all the claimed limitations. The teaching or suggestion to make the claim combination and reasonable expectation of success must both be found in the prior art and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). See MPEP § 2143.

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"It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that [o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.'" *In re Fritch*, 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992), quoting *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). "We additionally note that a rejection based on Section 103 must rest on a factual basis, with the facts being interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, the examiner has the initial duty of supplying the factual basis for the rejection he advances. He may not, because he doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis." *Ex parte Haymond*, 41 U.S.P.Q.2d 1217, 1220 (BPAI 1996).

In the present case, there is no motivation or suggestion in the prior art of record to combine the teachings of Noack and/or Vachss to the teachings of Bechtel '822. To the contrary, Bechtel '822 teaches away from such a combination by teaching that the photo-diode sensor is operable to detect ambient light levels for controlling the electrochromic mirror and for turning on and off the vehicle headlamps. There is no disclosure or suggestion or motivation to provide an image sensor for such a function. Nor is there any disclosure or suggestion or motivation to provide windshield wiper control and/or defogging system control in response to such ambient light level detection by the photo-diode sensor.

Thus, with respect to the rejection of independent claims 103 and 134, Applicants submit that there is no disclosure or suggestion of the claimed invention in Bechtel '822, Noack and/or Vachss and/or the combination thereof, and there is no suggestion or motivation in the references to combine the teachings of the references. Further, even if such a combination is improperly made, the combination does not result in the claimed invention of claims 103-126 and 130-146 of the present application.

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With respect to the rejection of independent claim 147, Applicants submit that the combination of Bechtel '822, Vachss and Stam '994 does not disclose, teach, suggest or render obvious the claimed invention of claim 147. Stam '994 discloses a headlamp control that has a single image array sensor. There is no disclosure or suggestion in Bechtel '822, Vachss, and/or Stam '994 of a first CMOS imaging array positioned in the interior of the vehicle and with a field of view through the windshield to the exterior of the vehicle, and a second CMOS imaging array positioned in the interior of the vehicle and with a field of view through the windshield to the exterior of the vehicle. Nor is there any disclosure or suggestion in the cited references of a control that is operable to, for example, process a first output of the first imaging array with at least one of a filtering process, an edge detection function and a detection control function, and that is operable to, for example, control a windshield wiper of the vehicle responsive to the processing of the first output, with the control being operable to adjust the rate of wipe of a windshield wiper of the vehicle responsive to images sensed by the first imaging array, and with the control adjusting the rate of wipe of a windshield wiper of the vehicle responsive to detection of water droplets at the exterior surface of the windshield. Nor is there any disclosure or suggestion in the cited references of a control that is operable to, for example, process the outputs to detect water droplets at the exterior surface of the window and fog particles at the interior surface of the window, and to control a defogging system of the vehicle. Nor is there any disclosure or suggestion in the cited references of the control being further operable to, for example, control a headlamp of the vehicle responsive to a second output from the second imaging array. Therefore, Applicants submit that there is no disclosure or suggestion in Bechtel '822, Vachss and Stam '994 of the claimed invention, and further submit that there is no suggestion or motivation in the cited references to combine the teachings of the cited references. Further, even if such a combination is improperly made, the combination does not result in the claimed invention of claim 147.

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Accordingly, Applicants respectfully submit that Bechtel '822, Noack, Vachss and/or Stam '994, either alone or in combination with one another or with any other prior art of record, do not disclose, teach, suggest or render obvious the interior rearview mirror system of the present invention, particularly as set forth in independent claims 103, 134 and 147 and in the claims depending therefrom. Reconsideration and withdrawal of the rejections of claims 103-126 and 130-147 is respectfully requested.

Claims 103-128 and 130-147 are pending in the application. Applicants respectfully submit that claims 103-128 and 130-147 are in condition for allowance and a notice to that effect is earnestly and respectfully requested.

Respectfully submitted,

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By: Van Dyke, Gardner, Linn & Burkhart, LLP

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